Vibration stability of rotors on journal bearings

ings with self-adjusting bushings. If flexible rotors have to be installed on common journal bearings, the minimum permissible length:diameter relation must be used. Conclusions: 1) The data of the investigations and practical experience with rotary machines prove that the unstable rotation caused by the oil film in plain journal bearings presents serious danger for flexible rotors. 2) If common journal bearings have to be used, the fact must be considered, that a heavier specific load on the bearings makes the rotor more stable in operation. The most radical means against whip is the application of special bearing designs. There are 3 figures, 1 table and 12 references: 5 Soviet-bloc and 7 non-Soviet-bloc. The references to the English-language publications read as follows: A. C. Hagg, The influence of oil-film journal bearings on the stability of rotating machines, "Journal of Applied Mechanics", v. 13, no. 3, 1946; A. C. Hagg, P. C. Warner, Oil whip of flexible rotors, "Trans. ASME", v. 75, no. 7, 1953; O. Pinkus, Experimental investigation of resonant whip, "Trans. ASME", v. 78, no. 5, 1956; B. Newkirk, Varieties of shaft disturbances due to fluid films in journal bearings, "Trans. ASME", v. 78, no. 5, 1956; G. Gnawki, Whirling of a journal bearing, "Engineering", v. 176, no. 4648, 1955; Den Hartog, Vibrations: a survey of industrial applications, "Engineer", v. 204, no. 5313, 1957; D. F. Zinn, Oil whip, "Product Engineering", 24, no. 2, 1953.

Card 3/3

LYSENK[illegible] M., kand.tekhn.nauk; MARTSINKOVSKIY, V.A.; inzh., SERIKOV, S.S., [illegible]izh., SHAVRA, B.M., inzh.

Experimental device for studying the vibration resistance of feed pump rotors. Energomashinostroenie 6 no.5:33-35 My '60. (MIRA 13:9)

(Pumping machinery--Vibration)

L[illegible]O, [illegible]

Conference on vibration stability of rotors. Prikl. [illegible] 7 no. 1:112-113 '61. ([illegible])

(Rotors--Vibration)

ANDREYEV, A.G., inzh.; LYSENKO, B.M. kand.tekhn.nauk

Calculation of the vane strength of a low-pressure adjustable blade hydraulic turbine. Energomashinostroenie 7 no.6:24-26 Je '61. (MIRA 14:7)

(Hydraulic turbines)

LYSENKO, B.M.

Investigating the stressed state of large annular parts of hydraulic turbines. Sbor.trud.Lab.gidr.mash.AN URSR no.10:58-62 '62.
(MIRA 15:12)

(Hydraulic turbines—Testing)

LYSENKO, B.M.

Critical speed of a rotor on three flexible supports. Trudy Lab.gidr. mash.AN USSR no.11:30-33 '64. (MIRA 17:10)

LYSENKO, D.

Give full range to creative activity. NTO 5 no.4:8-11 Ap '63. (MIRA 16:3)

1. Predsedatel' Kuybyshevskogo oblastnogo soveta naudhno-tekhnicheskikh obshchestv.

(Kuybyshev Province--Technological innovations)

LYSENKO, D.A.

Wide-row planting of millet. Zemledelie 27 no.5:60-62 My '65.
(MIRA 18:6)

1. Glavnyy agronom kolkhoza imeni XXII s"yezda Kommunisticheskoy partii Sovetskogo Soyuza, Starobel'skogo rayona, Luganskoy oblasti.

LYSENKO, D.N.

Scientific conference at the Kuybyshev Aviation Institute.
Izv.vys.ucheb.zav.; av.tekh. 2 no.3:152-154 '59.
(MIRA 12:12)

(Kuybyshev--Technology)

LYSENKO, D.N., kand. tekhn. nauk, dotsent; VITEVSKIY, I.V., inzh.

Stamping by means of a high-strength pulsed electromagnetic field. Vest mashinostr. 43 no.7:51-55 Jl '63. (MIRA 16:8)

(Forging) (Electromagnetic fields)

LISENKO, F. [Lysenko, F.], inzh.

If you must stop an automobile. Znan.ta pratsia no.2:10-11 F '59. (MIRA 12:10)
(Automobiles--Brakes)

LYSENKO, F.

LISENKO, F. [Lysenko, F.], inzh.

Tracery on glass. Znan. ta pratsia no.3:31 Mr '59. (MIRA 12:10)

(Ultrasonic waves--Industrial applications)

LYSENKO, F., inzh.

The unified electric power system. Znan. ta pratsia no.8:4 Ag '59.
(MIRA 13:2)
(Electric networks)

USSR/Cultivated Plants - Commercial. Oil-Bearing. Sugar-Bearing. M-5

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29888

Author : Molchanov, D.M., Lysenko, F.F., Rodimtsev, I.A., Rzhevskiy, G.K., Shafrin, A.N.

Inst : -

Title : Cotton Sowing Times in Uzbekistan.

Orig Pub : Sots. s. kh. Uzbekistana, 1957, No 3, 7-10

Abstract : No abstract.

Card 1/1

DUBINOVSKIY, V.B.; LYSENKO, F.F.

Increasing accuracy in fixing points on aerial photographs. Geod.i kart. no.1:44-47 Ja '63. (MIRA 16:2)
(Aerial photogrammetry)

LYSENKO, F.F., kand. tekhn. nauk

Measurement of photographs with approximate orientation. Izv. vys. ucheb. zav.; geod. i aerof. no.3:79-84 '63. (MIRA 17:1)

LYSENKO, F.F., kand. tekhn. nauk

Spatial phototriangulation from oblique aerial photographs using an electronic computer. Izv. vys. ucheb. zav.; geod. i aerof. no.6:113-129 '63 (MIRA 17:7)

LYSENKO, F.I., polkovnik; ADENIN, A.S., polkovnik; BONDARENKO, V.Ye., polkovnik; ROGACHEV, F.B., polkovnik; RYB'YAKOV, M.M., podpolkovnik; BELYAKOV, S.A., polkovnik; ISAKOV, P.F., polkovnik; BUHLYAY, A.A., polkovnik; SAVCHENKO, A.M., polkovnik; IVANOV, N.I., polkovnik; AVDEYENKOV, I.P., polkovnik; ZUBAREV, Ya.G., polkovnik; DIBROVA, I.Z., kapitan 1 ranga; TSVETKOV, R.V., general-mayor, red.; BRITVIN, N.I., polkovnik, red.; SHARPILO, P.N., podpolkovnik, red.; MYASNIKOVA, T.F., tekhn.red.

[Party political work in the Soviet Army and the Navy] Partiino-politicheskaia rabota v Sovetskoi Armii i Voenno-Morskom Flote. Moskva, Voenizd-vo M-va obor.SSSR, 1960. 284 p. (MIRA 13:6)

1. Voyenno-politicheskaya akademiya imeni V.I.Lenina (for all, except TSvetkov, Britvin, Sharpilo, Myasnikova).
(Russia--Armed forces--Education, Non-military)

LYSENKO, F.K.

Economic efficiency of the use of ferment preparations in the production of juices. Khar. prom. no.3:57-61 Jl-S '65. (MIRA 18:9)

LISENKO, F.K. [Lysenko, F.K.]

Economic efficiency of the use of enzymes in the distilling industry. Khar. prom. no.1:65-67 Ja-Mr '65. (MIRA 18:4)

BASOV, Ivan Ivanovich; PSHENICHNYY, N.I., kand.sel'skokh.nauk, red.; LYSENKO, F.K., red.

[Prospects for the development of agriculture in the Ukrains'koi RSR. Kyiv, Tovarystvo dlia poshyrennia polit. i naukovykh znan' Ukrains'koi RSR, 1958. 23 p. (MIRA 12:2)
(Ukraine--Agriculture)

[illegible]CHERNEVSKIY, Iosif Ivanovich [[illegible]CHERNEVS'KYI, Iosif Ivanovych], RUBANOVSKIY, P.M. [RUBANOVS'KYI, P.M.], red.; LYSENKO, P.K. [[illegible]], red.

[Development of Ukrainian commerce] Rozvytok torhivli Ukrains'koi RSR. Kyiv, 1958 35 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR, Ser. 2, no.6). (MIRA 11:8)
(Ukraine--Commerce)

LISENKO, F.K. [Lysenko, F.K.], inzh.

Universal production line for the manufacture of caramels. (MIRA 15:8)
Khar.prom. no.1:63-67 Ja-Mr '62.
(Confectionery) (Assembly-line methods)

LYSENKO, F.K.

Problems of chemistry in modern food production. Khar. prom. no.4:41-47 O-D '65. (MIRA 18:12)

LYSENKO, F.U.

Synthesis of aminoalkenols. Ukr.khim. zhur. 22 no.2:205-207 '56.
(MLRA 9:8)

1. Khersonskiy sel'skokhozyaystvennyy institut.
(Alcohols)

Lysenko, F.U.

LYSENKO, F.U.

Interaction between allyl magnesium bromide and piperdylacetone, morpholylacetone, n-aminoacetophenone, and 1,2,6-triphenyl-4-piperidone. Ukr.khim.zhur. 23 no.6:745-747 '57. (MIRA 11:1)

1.Khersonskiy sel'skokhozyaystvennyy institut im. A.D. TSyurupy.
(Magnesium compounds) (Acetone) (Acetophenone) (Piperidone)

LYSENKO, F.U.

LYSENKO, F.U.

Synthesis of β-aminolkenols. Ukr. khim. zhur. 23 no.6:757-760 '57. (MIRA 11:1)

1.Khersonskiy sel'skokhozyaystvennyy institut im. A.D. TSyurupy.
(Alcohols)

LYSENKO, F.U., Cand Chem Sci --(diss) "Study of reactions of magnesium bromide allyl with aminocarbonyl compounds." Kiev, 1959. 11 pp (Min of Higher Education UkSSR. Kiev State U im T.G. Shevchenko), 150 copies (KL,30-59, 118)

GRODZINSKIY, D.M.; LYSENKO, F.V., red.

[Natural radioactivity of plants and soils] Estestvennaia radioaktivnost' rastenii i pochv. Kiev, Naukova dumka, 1965. 215 p. (MIRA 18:6)

LYSENKO, F.Ye.

Blocking of mother beets. Sakh.prom. 34 no.2:66-67 F '60.
(MIRA 13:5)

1. Korninskiy sveklosovkhoz.
(Kornin--Sugar beets)

LYSENKO, F.Ye.

Rectangular two-spot seeding and growing of mother beets. Sakh. prom. 34 no.6:68-69 Je '60. (MIRA 13:7)

1. Korninskiy sveklosovkhoz.
(Kornin--Sugar beets)

LYSENKO, G.D.

Agriculture to the level of greater tasks. Analele biol 16 no.1: 3-11 Ja-F '62

LYSENKO, G.I.

SOV/156-59-1-13/54

18(7), 5(3)

AUTHORS: Afanas'yev, A. S., Lysenko, G. I.

TITLE: On the Problem of the Mechanism of the Inhibitory Effect of Urotropin on Acid Corrosion of Steel (K voprosu o mekhanizme ingibitornogo deystviya urotropina na kislotnuyu korroziyu stali)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 52 - 56 (USSR)

ABSTRACT: It was to be investigated how far organic cations are superficially adsorbed by iron in sulfuric acid. Although iron differs very much in nature from mercury, it is, in a certain degree, possible for iron to transfer the data on the surface activity of substances to mercury, according to publications (Ref 8, Ref 9). Therefore the specific effect of urotropin (hexamethylene tetramine)(20 g/l) was investigated by plotting electrocapillary curves with mercury in sulfuric acid with a change of pH from 1 to 5 (for 0.2-n solutions) and from 0.4 to 1.8 (for 1-n solutions) in comparison to samples without urotropin. Moreover, the influence of the decomposition products of urotropin on

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the electrocapillary curve was investigated by the addition of CH_3NH_2, $CH_2(NH_2)_2$, $CH(NH_3)_3$, and NH_3 with HCOH with the addition of urotropin an anomalous variation takes place in the course of the electrocapillary curve. Between -0.6 and - 0.8 the surface tension of mercury drops, and between -0.8 and -1.0 v levelings and curvatures appear, which increase with falling pH. Among the decomposition products of urotropin only dimethyl amine has a similar effect on the electrocapillary curve. The addition of NH_3 and CHOH increases this effect and brings the form of the curve near to that of urotropin. Urotropin acts mainly as a cation addition (shift of the potential of the zero toward more positive values). Its surface activity depends on the decomposition products. A molecular adsorption of formaldehyde occurs herein. Therefore urotropin is a surface-active addition of the cation-molecular type. There are 4 figures and 12 references, 8 of which are Soviet.

On the Problem of the Mechanism of the Inhibitory Effect of Urotropin on Acid Corrosion of Steel

SOV/156-59-1-13/54

ASSOCIATION: Kafedra fizicheskoy khimii Dnepropetrovskogo metallurgicheskogo instituta (Chair of Physical Chemistry of the Dnepropetrovsk Institute of Metallurgy)

SUBMITTED: June 13, 1958

Card 3/3

AFANAS'YEV, A.S.; BRYNZA, A.P.; GERASYUTINA, L.I.; LYSENKO, G.I.

Effect of urotropine on the acid corrosion of steel. Ukr.khim. zhur. 25 no.1:73-80 '59. (MIRA 12:4)

1. Dnepropetrovskiy metallurgicheskiy institut, kafedra fizicheskoy khimii i Dnepropetrovskiy gosuniversitet, kafedra neorganicheskoy khimii.
(Hexamethylenetetramine) (Steel--Corrosion)

S/137/62/000/001/195/237
A006/A101

AUTHORS: Afanas'yev, A. S., Lysenko, G. I.

TITLE: The effect of urotropine on steel corrosion in sulfuric acid

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 85, abstract 1I601 ("Sb. nauchn. tr. Dnepropetr. metallurg. in-t", 1959, no. 38, 65-76)

TEXT: Urotropine is a mixed-type inhibitor. It affects both the cathodic and anodic process by accelerating or retarding same, depending on the conditions. The mechanism of this effect is complicated and depends on the urotropine ability of changing the pH of the solution, on the surface-activity of urotropine and its products, and on their chemical properties. The co-existence of molecular and ionic type substances in the solution makes it difficult to explain a series of phenomena. However, results obtained from electrocapillary measurements, explain fully the desorption limits of substances on Fe (by taking into account the potential Fe zero charge) and also the inhibiting and stimulating effects of urotropine exerted on cathodic and anodic processes. During cathodic etching of scale-covered МСт.2 (MSt.2) steel in 1 n. H_2SO_4, admixture of urotropine reduces noticeably overetching of the steel. During

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S/137/62/000/001/195/237
A006/A101

The effect of urotropine ...

anodic polarization of the steel with an oxidized surface urotropine facilitates considerably passivation of the electrodes. There are 15 references. See also RZhMet, 1959, no. 11, 25566.

Authors' summary

[Abstracter's note: Complete translation]

Card 2/2

LYSENKO, G. I., Cand Chem Sci (diss) -- "The effect of urotropine on the corrosion of steel in an acid medium (The problem of the mechanism of this effect)". Dnepropetrovsk, 1960. 11 pp (Min Higher and Inter Spec Educ Ukr SSR, Dnepropetrovsk Chem-Tech Inst im F. E. Dzerzhinskiy), 200 copies (KL, No 14, 1960, 127)

S/153/60/003/005/015/016
B013/B058

AUTHORS: Afanas'yev, A. S., Lysenko, G. I.

TITLE: Effect of Urotropin on Corrosion of Steel in Sulfuric Acid

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 5, pp. 942-946

TEXT: The specific effect of Urotropin on oxidative corrosion of steel of the grade МСт-2 (MSt-2) in strongly acid solutions was studied here. In this study, as well as in Ref. 1, "Urotropin" means a Urotropin complex, i.e. the totality of HCOH amino salts and NH_4^+. It was established that the minimum value of the inhibiting Urotropin concentration becomes the smaller, the lower the pH of the solution (Fig. 1). The effect of Urotropin was classified into cathodic and anodic processes on the basis of polarization measurements in 0.2 and 1 N H_2SO_4 inhibited with Urotropin. It was established that Urotropin is an inhibitor of mixed type, which influences cathodic as well as anodic processes by accelerating or slowing down these processes depending on the particular conditions

(Figs. 2-4). The effect of Urotropin has a complicated mechanism which depends on the ability of the Urotropin basis to change the pH of lowly concentrated acid solutions; on the surface activity of Urotropin and its products, which is determined by the Urotropin concentration, as well as on chemical properties of products of the Urotropin complex. The study of the surface activity of Urotropin and some of its products showed that Urotropin acts like a cationic molecular admixture (Refs. 10,11). The explanation of some phenomena is complicated by the fact that substances of molecular and ionic type exist simultaneously in the solution. The desorption limits of substances on iron (in consideration of the zero potential of iron) as well as inhibiting and stimulating functions of Urotropin can nevertheless be explained on the basis of capillary-electric measurement results. At cathodic pickling of scale-covered MSt-2 steel in 1 N H_2SO_4, over-pickling can be strongly reduced by addition of Urotropin. The passivation of the electrode is greatly facilitated in anodic polarization of the steel with an oxidated surface (Fig. 5). S. A. Balezin, S. K. Novikov, V. S. Bagotskiy, I. Ye. Yablokova, and M. A. Loshkarev are mentioned. There are 5 figures and 15 Soviet references.

Effect of Urotropin on Corrosion of Steel in Sulfuric Acid

S/153/60/003/005/015/016
B013/B058

ASSOCIATION: Dnepropetrovskiy metallurgicheskiy institut, Kafedra fizicheskoy khimii (Dnepropetrovsk Metallurgical Institute, Department of Physical Chemistry)

SUBMITTED: March 2, 1959

Card 3/3

LYSENKO, G.I. [Lysenko, H.H.]; AFANAS'YEV, A.S. [Afanas'iev, O.S.]

Mechanism of the adsorption action of certain inhibitors of acid corrosion. Dop. AN URSR no.8:1049-1051 '61. (MIRA 14:9)

1. Dnepropetrovskiy metallurgicheskiy institut i Melitopol'skiy pedagogicheskiy institut. Predstavleno akademikom AN USSR Yu.K. Delimarskim [Delimars'kyi, IU.K.].
(Hexamethylenetetramine)
(Corrosion and anticorrosives)

KALINOVSKIY, A.B.; PINUS, N.Z.; SELEZNEVA, Ye.S., otvetstvennyy redaktor; LYSENKO, G.M., redaktor; KONONOVA, L.B., tekhnicheskiy redaktor; YULISH, F.A., tekhnicheskiy redaktor.

[Aerology; methods of aerological observations] Aerologiia; metody aerologicheskikh nabliudenii. Leningrad, Gidrometeorologicheskoe izd-vo, 1951. 452 p. (MLRA 7:10)
(Meteorology) (Atmosphere, Upper)

LYSENKO, G.M. [Lysenko, H.M.]

Deriving a formula for centripetal accleration in a physics course for the secondary school. Nauk.zap.Kren.derzh.ped.inst. no.4:108-129 '59. (MIRA 13:9)

(Centripetal force)

S/185/62/007/012/008/021
D234/D308

AUTHORS: Kyslyak, H.M. and Lysenko, G.M.

TITLE: Phosphorescence of boron-phthalic luminophores

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 12, 1962, 1309 - 1313

TEXT: The decrease of phosphorescence with time over +160° to - 183°C was exponential in the whole range, except when the luminophore was prepared from unpurified boric acid. The duration of phosphorescence decreased with increasing temperature. The authors also repeated M.D. Khalupovskiy's experiments (Opt. i spektr., 12, 81, 1962) but did not confirm his results. The activation energy calculated from the results is 0.105 ev between +160° and +60°C and about 0 below -20°C. In the intermediate range both α - and β - phosphorescence is observed. This is in good agreement with A. Yablonskiy's three-level model. The intensity is described well by $J_o/(1+Ce^{-E/kT})$.

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Phosphorescence ...

The extinction energies determined from this formula are 0.80 ev (+150° to +100° C) and 1.40 ev (+100 to +60° c). There are 3 figures.

ASSOCIATION: Poltavs'kyy pedinstytut (Poltava Pedagogical Institute)

SUBMITTED: June 12, 1962

Card 2/2

KISLYAK, G.M. [Kyslіak, H.M.]; LYSENKO, G.M. [Lysenko, H.M.]

Temperature effect on the phosphorescence of phthalic acid in alums. Ukr. fiz. zhur. 7 no.12:1314-1317 D '62. (MIRA 15:12)

1. Poltavskiy pedagogicheskiy institut.
(Phthalic acid) (Phosphorescence) (Alum)

KISLYAK, G.M. [Kysliak, H.M.]; LYSENKO, G.M. [Lysenko, H.M.]

Law of phosphorescence damping in organic substances. Ukr. fiz. zhur. 8 no.7:772-778 Jl '63. (MIRA 16:8)

1. Poltavskiy pedagogicheskiy institut im. Korolenko.
(Phosphorescence)

KISLYAK, G.M. [Kysliak, H.M.]; LYSENKO, G.M. [Lysenko, H.M.]

Some luminescent properties of organic dyes. Ukr. fiz. zhur. 8 no.8:900-906 Ag '63. (MIRA 16:11)

1. Poltavskiy pedagogicheskiy institut im. Korolenko.

L 9859-63 EWT(1)/EWT(m)/BDS--AFFTC/ASD/ESD-3/SSD--RM/MAY/IJP(C)
ACCESSION NR: AP3001345 S/0048/63/027/006/0717/0719

62
60

AUTHOR: Kislyak, G. M.; Iy*senko, G. M.

TITLE: Influence of temperature on the phosphorescence of organic substances [Report of the Eleventh Conference on Luminescence held in Minsk from 10 to 15 September 1962]

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v. 27, no. 6, 1963, 717-719

TOPIC TAGS: phosphorescence of organic molecules, metastable levels, sodium fluorescein, sulfanilic acid, anthranilic acid

ABSTRACT: In recent years there have been published many data that are not consistent with the Jablonski, A. (Z. Phys. 94, 38, 1935) three-level diagram with only one metastable level for organic molecules. Hence some investigators have proposed the existence of two or more metastable levels, between which nonradiative transitions may occur. The purpose of the present study was to obtain on the basis of measurements at different temperatures experimental proof of the existence of two or more metastable levels. The measurements were carried out by means of a special set-up designed to detect weak fluxes. The specimens

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L 9859-63
ACCESSION NR: AP3001345

were fluorescein, uranin, sulfanilic and anthranilic acids in boric acids and ptash alum beads and crystalline sulfanilic and anthranilic acids. The organic phosphors were frozen in liquid oxygen in a special flask. The phosphorescence decay curves were recorded on negative film by one of the vibrators of an eight-loop oscillograph connected via an amplifier to the output of the FEU-19 photomultiplier viewing the phosphor. The decay constants were calculated in the usual manner on the assumption of an exponential decay curve. The decay constant versus temperature curves for uranin and sulfanilic acid in boric pellets are presented. Analysis of the data leads to the inference that the phosphorescence mechanism of uranin and sulfanilic and anthranilic can be explained on the basis of the Jablonski diagram with the introduction of a second metastable level from which there occur direct radiative transitions to the ground state. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: PH NR REF SOV: 005 OTHER: 005 FR AID: 29AUG63

ja/mh

Card 2/2

ACCESSION NR: AP4017395 S/0185/64/009/002/0160/0165

AUTHOR: Ly*senko, G. M.; Ky*slyak, G. M.

TITLE: On the phosphorescence of organic phosphors with two metastable levels

SOURCE: Ukrayins'ky*y fizy*chny*y Zhurnal, V. 9, no. 2, 1964, 160-165

TOPIC TAGS: phosphorescence, phosphorescence decay, phosphorescence kinetics, organic phosphor, organic phosphor metastable level, metastable organic level, organic substance luminescence, fluorescence, fluorescent level

ABSTRACT: Equations of the kinetics of phosphorescence of organic phosphors with two metastable levels, Fig. 1 of Enclosure 01, are discussed. These are important, because the Jablonskiy Scheme /Ref. not given/, which is based on a one metastable level system, is not applicable to a large number of measurements of phosphorescence of organic molecules. If transitions between the metastable levels (M_1 & M_2) and between the metastable levels and the normal (N) and fluorescent (F) are permitted, the phosphorescence damping curve should not deviate from exponential. Even the allowing of fluorescent

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ACCESSION NR: AP4017395

transitons does not lead to A deviation from exponential damping. The equations are analogous to the corresponding equations for organic phosphors with one metastable level. Orig. art. has 45 numbered equations and 2 figures.

ASSOCIATION: Poltavs'ky*y Pedinsty*tut im. V. G. Korolenka
(Poltava Pedagogical Institute)

SUBMITTED: 06Jul63 DATE ACQ: 19 Mar64 ENCL: 01

SUB CODE: PH NO REF SOV: 008 OTHER: 001

Card 2/2

ACCESSION NR: AP4043862 S/0139/64/000/004/0013/0016

AUTHORS: Kislyak, G. M.; Ly*senko, G. M.

TITLE: On the phosphorescence of benzoic acid

SOURCE: IVUZ. Fizika, no. 4, 1964, 13-16

TOPIC TAGS: phosphorescence, phosphorescence quenching, benzoic acid, alcohol, water, diethyl ether, carbon tetrachloride, boric acid

ABSTRACT: In spite of the agreement on the part of most workers that phosphoresence quenching of benzoic acid obeys an exponential law, the authors have observed, in a study of the effect of the temperature and different solvents on the phosphorescence of several organic substances (including benzoic acid), certain deviations from the exponential law. They consequently studied in greater detail the phosphorescence of benzoic acid in different alcohols, water,

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ACCESSION NR: AP4043862

diethyl ether, and carbon tetrachloride at the temperature of liquid oxygen. In all the solvents, the phosphorescence quenching obeyed at various temperatures a complicated law, and the phosphorescence quenching curve could be resolved into two exponentials. The phosphorescence of benzoic acid in frozen boric acid and in the crystalline state was investigated also in the temperature interval from -183 to +20C, and the results obtained were similar to those obtained in alcohols and other solvents. The errors in the results by others, which have led to the erroneous assumption, are analyzed. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Poltavskiy pedinstitut imeni V. G. Korolenko (Poltava Pedagogical Institute)

SUBMITTED: 23Mar63 ENCL: 00

SUB CODE: OP NR REF SOV: 010 OTHER: 000

Card 2/2

L 15140-65 EWT(1)/EEC(b)-2 IJP(c)/SSD/AFWL GG

ACCESSION NR: AP4046662 S/0185/64/009/009/1001/1008

AUTHOR: Ky*slyak, G. M. (Kislyak, G. M.); Lebedev, M. A. (Lebedev, M. A.); Ly*senko, G. M.

TITLE: The anti-Stokes phosphorescence of organic phosphors

SOURCE: Ukrayins'ky*y fizy*chny*y zhurnal, v. 9, no. 9, 1964, 1001-1008

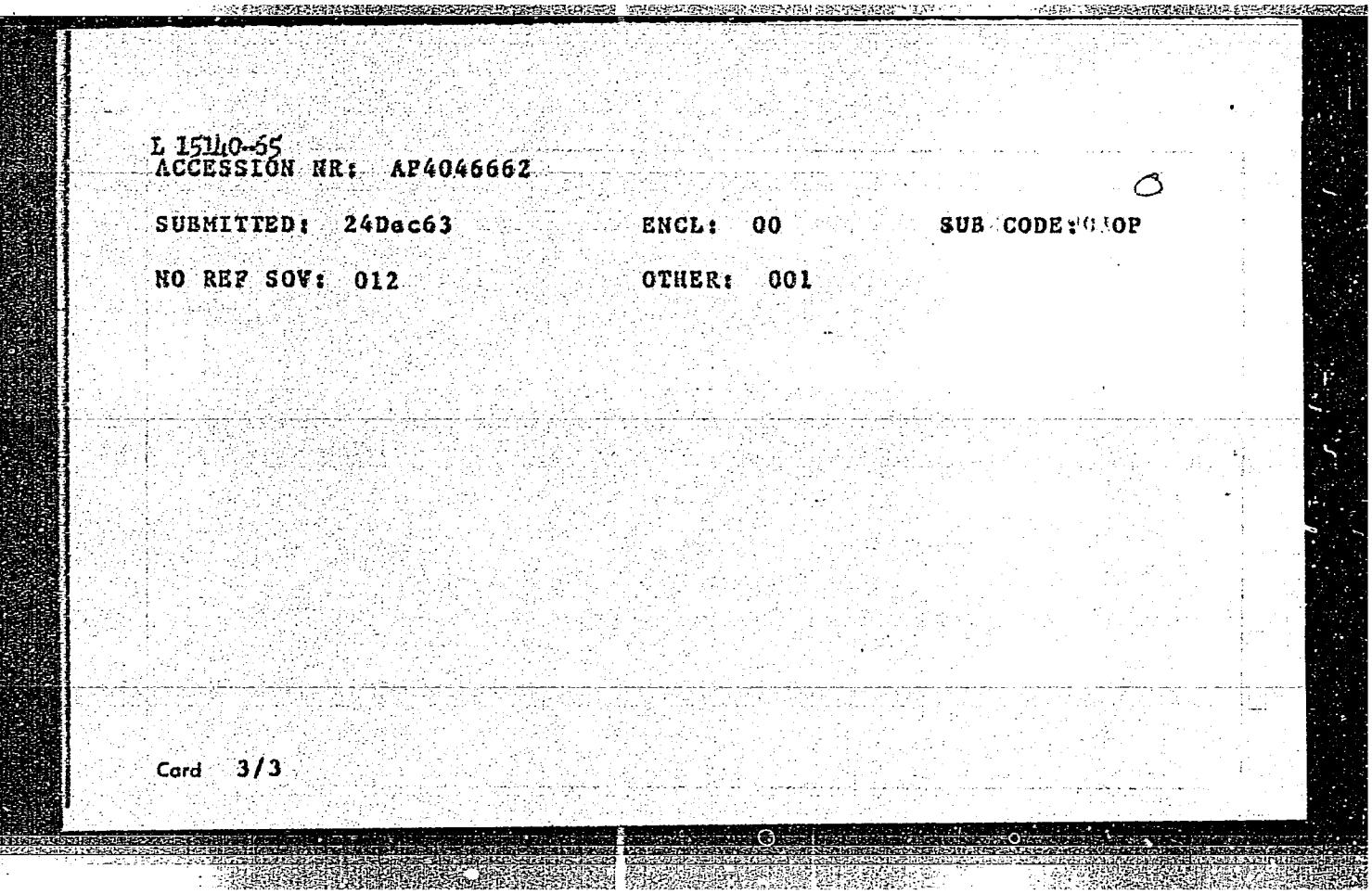
TOPIC TAGS: phosphorescence, phosphorescence duration, phosphorescence yield, metastable level population, anti Stokes spectrum, organic phosphor, anti Stokes phosphorescence

ABSTRACT: The effect of the wavelength of an exciting light on the duration and the relative yield of phosphorescence was investigated. It was found that shifting to the light of the anti-Stokes region of the spectrum results in a decrease in the duration and relative yield of phosphorescence, followed by a change in population of the metastable level. Such changes in some luminescence characteristics in the anti-Stokes region of the spectrum can not be explained by inactive absorption of nonluminescent admixtures in solutions, since this phenomenon is observed in organic phosphors of different purities.

Card 1/3

The most thorough purification of solvents and activators does not affect the shape of curves representing the dependence of the duration and relative yield of phosphorescence on the wavelength of an exciting light. It also can not be explained by the presence of dimers and polymers since such dependence is observed with frozen solutions of organic phosphors of different concentrations. A comparison of all results obtained leads to the conclusion that the decrease in duration and relative yield of phosphorescence in the anti-Stokes region of the spectrum can be explained by extinction of the second kind, the extinction that occurs when molecules are in the excited state. The conclusion is also drawn that activation energy is needed for a molecule to pass into a metastable state. In addition, transitions from high oscillation levels of the unstable state into a metastable state have greater probabilities than transitions from low oscillation levels. The extinction of phosphorescence, whether due to Stokes or anti-Stokes excitation, proceeds according to an exponential law. Orig. art. has: 7 figures, 5 formulas, and 2 tables.

ASSOCIATION: Poltavs'ky*y pedinsty*tut (Poltava Pedagogical Institute)



L 15140-65
ACCESSION NR: AP4046662

SUBMITTED: 24Dec63 ENCL: 00 SUB CODE: GP

NO REF SOV: 012 OTHER: 001

Card 3/3

KISLYAK, G.M. [Kysliak, H.M.]; LYSENKO, G.M. [Lysenko, H.M.]

Phosphorescence of boron-uranium phosphors. Ukr. fiz. zhur. 9 no.11:1256-1260 N '64 (MIRA 18:1)

1. Poltavkiy pedagogicheskiy institut im. Korolenko.

LYSENKO, G.M. [Lysenko, H.M.]; KISLYAK, G.M. [Kysliak, H.M.]

Law of the extinction of phosphorescence of organophosphors with two metastable levels. Dop. AN URSR no.2:200-203 '65.
(MIRA 18:2)

1. Poltavskiy pedagogicheskiy institut.

L01251-66

ACCESSION NR: AP5020812 UR/0048/65/029/008/1413/1416

AUTHOR: Kislyak, G. M.; Lysenko, G. M. 20

TITLE: Persistence of phosphorescence in different regions of the emission spectrum /Report, 13th Conference on Luminescence held in Khar'kov 25 June to 1 July 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 8, 1965, 1413-1416

TOPIC TAGS: luminescence spectrum, phosphorescence, solution property, time constant

ABSTRACT: The authors have measured the duration of phosphorescence at different wavelengths for a large number of organic compounds in different solvents and at different temperatures, because the data in the literature are contradictory. The authors have described their apparatus and experimental technique elsewhere (Ukr. fiz. zh., 7, 1309, 1962). Data are tabulated for trypaflavine in ethyl alcohol and in 85% formic acid and for fluorescein in acidified n-butyl alcohol and in boric acid, all at - 183°C, and for uranin in potash alum at 25°C; and data are presented graphically for fluorescein in acidified methyl alcohol and in sulfuric acid at - 183°C and for a boron uranin phosphor at 25°C. In all these cases the

Card 1/2

L 01251-66

ACCESSION NR: AP5020812

duration of the phosphorescence decreased with increasing wavelength, except that in the long wavelength half of the boron uranin phosphor spectrum the duration of phosphorescence was nearly independent of the wavelength. Other more complicated behavior was observed with some other compounds, however. The authors consider the most likely explanation for the decrease of the duration of phosphorescence with increasing wavelength to be that the three levels of the model of A.Jablonski (Z.Phys., 94, 38, 1935) are actually broad bands consisting of continuous sets of sublevels and that the transition probability from a sublevel to the ground state decreases with increasing excitation energy of the sublevel. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: OP, GC

NO REF SOV: 011 OTHER: 006

Card 2/2

KISLYAK, G.M. [Kysliak, H.M.]; LYSENKO, G.M. [Lysenko, H.M.]

On the phosphorescence of terephthalic acid. Ukr. fiz. zhur. 10 no.9:1015-1018 S '65. (MIRA 18:9)

1. Poltavskiy pedagogicheskiy institut im. Korolenko.

L 08132-67 EWP(1)/EWT(m)/EWP(j) WW/RM

ACC NR: AP6033524 SOURCE CODE: UR/0185/66/011/010/1101/1108

AUTHOR: Lysenko, H. M.--Lysenko, G. M.; Kyslyak, H. M.--Kislyak, G. M.

ORG: Poltava Pedagogical Institute (Poltav'skyy pedinstytut)

41
B

TITLE: Effect of reabsorption on the law of organoluminophor phosphorescence decay

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 10, 1966, 1101-1108

TOPIC TAGS: adsorption spectrum, emission spectrum, luninescence, phosphorescence, organic phosphorus compound. afterglow, phosphorescence decay

ABSTRACT: Overlap of absorption and emission spectra of organic phosphors leads to considerable change in some luminescence characteristics. However, the authors' attempts to obtain a change in the duration and the law of phosphorescence decay were unsuccessful because of reabsorption, varying layer thickness, and activator concentration. Binary solutions were used in the attempt. In the case when the afterglow spectra of binary solution components lie in a single spectral region, the decay curve breaks up into two exponents, each of which

Card 1/2

characterizes the course of afterglow decay of a separate activator. In the case of binary donor-acceptor mixtures, in which favorable conditions are set up for the reabsorption of phosphorescence energy of the donor by the acceptor, a good experimental corroboration is obtained for the theoretical calculations on the increase in duration of phosphorescence. However, the decay curve breaks up into two exponents in this case, too. Under some assumptions, the theoretical nonexponential law of decay, as in the case of fluorescence, is reduced to the sum of two exponents, which is corroborated experimentally. The durations of afterglow of the donor and acceptor obtained in this case agree with the experimental results. Orig. art. has: 3 figures, 12 formulas, and 1 table. [Based on authors' abstract]

SUB CODE: 20/ SUBM DATE: 29Nov65/ ORIG REF: 033/ OTH REF: 012/

CLEYNIK, N.N. [Oliinyk, M.M.]; PONOMAREV, S.G. [ponomar'ev, S.H.], kand. tekhn. nauk; GRISHILO, V.F. [Hryshylo, V.F.]; LYSENKO, G.N. [Lysenko, H.P.]; CHERANOVSKAYA, S.B. [Cheranovs'ka, S.B.]

Color coating of grain-side and refined leather. Leh. prom. no.1:41-43 Ja-Mr '65. (MIRA 18:4)

L 45618-65 EWT(1) Pi-4 IJP(c)

ACCESSION NR: AP5006457 S/0021/65/000/002/0200/0203 12 11 B

AUTHOR: Lysenko, H. M. (Lysenko, G. M.); Kyslyak, H. M. (Kislyak, G. M.)

TITLE: Concerning the law of phosphorescence quenching of organophosphors with two metastable levels

SOURCE: AN UkrRSR. Dopovidi, no. 2, 1965, 200-203

TOPIC TAGS: phosphorescence quenching, metastable level, organophosphor, level transition, activator molecule

ABSTRACT: The authors attempted to explain why the curve of phosphorescence quenching in the presence of two metastable levels can be described by an exponential function. To this end they determined the transition probabilities between normal, labile, and metastable levels of a molecule and the dependence of the population of these levels at a certain instant of time on the probability after the end of the excitation. Kinetic equations are derived for the transition probabilities under the assumption of radiative transition from the two metastable levels to the ground state. It is shown by an analysis of these equations that the pre-

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L 45618-65

ACCESSION NR: AP5006457

sence of two metastable levels does not always lead to exponential phosphorescence quenching, and this was confirmed by measurements of τ-phosphorescence of uranine and boric acid. In the case of other substances, however, such as fluorescein, the exponential quenching law has been confirmed. This report was presented by S. I. Pekar. Orig. art. has: 2 figures and 8 formulas.

ASSOCIATION: Poltavs'kyy pedagogichnyy institut
(Poltava Pedagogical Institute)

SUBMITTED: 28Mar64 ENCL: 00 SUB CODE: OP, OC

NR REF SOV: 005 OTHER: 005

Card 2/2

L 00811-67 EWT(1) IJP(c)

ACC NR: AP6028710 SOURCE CODE: UR/0185/66/011/008/0857/0865

AUTHOR: Kyslyak, H. M. --Kislyak, G. M.; Lysenko, H. M. -- Lysenko, G. M.; Ponochovnyy, V. I.

ORG: Poltava Pedological Institute im. V. G. Korolenka (Poltavs'kyy pedinstitut)

TITLE: Concentration extinction of phosphorescence

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 8, 1966, 857-865

TOPIC TAGS: phosphorescence, fluorescence, absorption spectrum, molecular association theory, resonance migration theory

ABSTRACT: The authors investigated the duration of the phosphorescence of many organic compounds in various solvents (boric acid, aluminum alums, cement, oxides, alcohols, acids) in an activator concentration range of 1.10^{-1} to $1 \cdot 10^{-7}$ g/g or g/cm^3 at 160°C to the temperature of liquid oxygen. It is shown that at high activator concentrations, the decrease in the duration of phosphorescence can be explained by the theory of molecular association [1] or the theory of resonance migration of energy from excited to unexcited molecules. However, phosphorescence extinction cannot be explained by either of these theories for

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L 00811-67
ACC NR: AP6028710

low concentrations. In some cases, an anomalous phenomenon is observed—the duration of phosphorescence increases considerably with an increase in activator concentration and becomes much greater at high concentrations than at low ones. According to present data, a shift in the phosphorescence spectrum is observed for the α band in the long-wave region with an increase in activator concentration. It is concluded that the concentration extinction of phosphorescence at low activator concentrations, and in some cases at high ones, is an extremely complex phenomenon. In order to clarify this phenomenon, a comprehensive study of the effect of the activator concentration on the absorption spectrum, fluorescence and phosphorescence, and polarization of the afterglow should be conducted at all temperatures within the range from -183 to 130C. Orig. art. has: 3 tables, and 6 figures. [Based on authors' abstract] [FM]

SUB CODE: 20/ SUBM DATE: 19Jul65/ ORIG REF: 040/ OTH REF: 020/

Card 2/2 ULR

VNUKOVSKIY, G.; LYSENKO, I.; BERESHCHUK, N., red.; NAGIBIN, P., tekhn. red.

[The "Kiialinskii" State Farm] Sovkhoz "Kiialinskii." Alma-Ata, Kazsel'khozgiz, 1962. 31 p. (MIRA 17:2)

LYSENKO, I.

In the Department of Economics of the Academy of Sciences of the U.S.S.R. Vop. ekon. no.2:149-[illegible] F '64. (MIRA 17:3)

SOV/169-59-3-2979

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 3, p 136 (USSR)

AUTHORS: Kashcheyev, B.L., Dudnik, B.S., Lagutin, M.F., Lysenko, I.A., Tolstov, V.V.

TITLE: Radar Observations of the Meteor Activity

PERIODICAL: Mezhdunar. geofiz. god. Inform. byul., 1958, Nr 1, pp 38-42 (Engl. Res.)

ABSTRACT: The article contains the results of meteor activity observations, which were performed in Khar'kov in accordance with the IGY program during the period from July to December 1957. The observations were carried out by a radar method in the 72 Mc range. More than 10,000 meteors were recorded. A circuit is discussed which may be used for meteor observations in the presence of strong noise.

Authors' résumé

Card 1/1

SOV/169-59-4-4033

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 4, p 123 (USSR)

AUTHORS: Dudnik, V.S., Kashcheyev, B.L., Lagutin, M.F., Lysenko, I.A.

TITLE: The Measurement of the Meteor Velocity by the Diffraction Method

PERIODICAL: Mezhdunar. geofiz. god., Inform. byul., 1958, Nr 1, pp 51 - 62 (Engl. Res.)

ABSTRACT: The Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnic Institute) performed radar measurements of the meteor velocity using the pulse method. The changes of the distance to the meteor cause an interference of the reflected waves and echo amplitude variations. Hence, the meteor velocity can be found after having determined the distance to the meteor. The paper contains a description of the principal circuit diagram of the device used for studying the meteor stream of the Geminids. A velocity of 35 ± 2.5 km/sec was obtained for the meteors of this stream.

Card 1/1

DUDNIK, B.S.; KASHCHEYEV, B.L.; LAGUTIN, M.F.; LYSENKO, I.A.; TOLSTOV, V.V.; DELOV, I.A.

Studying meteoric activity by means of radar on a frequency of 72 mc. Izv.vys.ucheb.zav.; radiofiz. 1 no.2:66-70 '58. (MIRA 11:11)

1. Khar'kovskiy politekhnicheskiy institut.
(Meteors) (Radar in astronomy)

KASHCHEYEV, B.L.; LYSENKO, I.A.; CHEPURA, V.F.

Measuring wind speeds at altitudes of 80 to 120 km by reflections from meteors. Biul. Kom. po komet i meteor. AN SSSR no.3:9-14 '58 (MIRA 13:3)

1. Khar'kovskiy politekhnicheskiy institut.
(Atmosphere, Upper)

SOV/109-3-11-5/13

AUTHORS: Dudnik, B.S., Kashcheyev, B.L., Lagutin, M.F. and Lysenko, I.A.

TITLE: A Protection System Against the Pulse Interference in the Equipment for the Recording of Meteoric Activity (Sistema zashchity ot impuls'nykh pomekh v apparature, registriruyushchey meteornuyu aktivnost')

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol 3, Nr 11, pp 1379 - 1383 (USSR)

ABSTRACT: The equipment developed by the Astronomical Observatory imeni Engel'gart (Ref 1) for the observation of the activity of meteors is inadequate in that it is subject to the influence of external interference. The equipment was therefore modified in the Khar'kovskiy politekhnicheskiy institut (Kharkov Polytechnical Institute) in such a way as to eliminate the effect of pulse interference. The resulting protection system consists of a signal channel and an interference channel (Figure 1). Both channels are provided with identical receivers in which it is possible to tune the local oscillator and the ultra-high frequency units. The receivers are connected to two antennae, A_C and $A_П$. The receiver of the signal

Cardl/4

channel is tuned to the frequency f_c of the radar station while the receiver of the interference channel is tuned to a frequency f_Π which is chosen in such a way that $f_\Pi = f_c \pm k\Delta F$, where ΔF is the bandwidth of the receiver and k is the de-tuning coefficient which is of the order of 4-8. The difference in the centre frequencies of the two receivers is necessary in order to make the interference channel insensitive to the useful signals; on the other hand, both the receivers are sensitive to the interference since its energy is spread over a spectrum which is much wider than that of the signal. The video-detector of the interference channel is followed by a selector-amplifier which produces rectangular pulses having an amplitude of 200 V; the pulses are independent of the intensity of the interference provided the latter is greater by a factor of 2.5 than the noise level. The output of the video-detector of the signal receiver is also followed by a

A Protection System Against the Pulse Interference in the Equipment for the Recording of Meteoric Activity

selector-amplifier which produces rectangular pulses. The length of the pulses is proportional to the duration of the signal at the output of the detector (at the limiting level). These pulses are applied to a special stage consisting of two tubes (Figure 2) having a common cathode load consisting of two tuned circuits. Normally, this device is conducting but in the presence of a negative pulse, the resonant circuits produce an oscillatory transient, as can be seen in Figure 3. If the time constants of the resonant circuits are suitably chosen, the output transient of the circuit of Figure 2 will contain a positive overshoot. The output signal from this circuit (which is, in effect, a delay circuit) is applied to the input of a selector tube which can be opened by the positive peaks. The second grid of the selector tube (pentode) is connected to the output of the interference channel. Consequently, in the presence of a negative pulse in the interference channel, the selector tube is closed even if a positive peak is delivered by the signal channel. An interference pulse which appears in both the channels will therefore be

A Protection System Against the Pulse Interference in the Equipment for the Recording of Meteoric Activity

stopped at the selector tube. The above protection system is employed at the meteor station of the Khar'kov Polytechnical Institute, which is carrying out investigations for the IGY (Refs 2 and 3). The improvement obtained by using the protection system is illustrated in Figure 4a and 4b; the first figure shows a record of the meteoric activity in the absence of the protection system, while the second picture illustrates the improvement. There are 4 figures and 4 Soviet references.

SUBMITTED: April 16, 1958

Card 4/4

3(1)

AUTHORS: Dudnik,B.S., Kashcheyev,B.L., Lagutin,M.F.,and Lysenko,I.A. SOV/33-36-1-19/31

TITLE: Velocity of Meteors of the Gemini Shower

PERIODICAL: Astronomicheskiy zhurnal, 1959,Vol 36,Nr 1,pp 141-145 (USSR)

ABSTRACT: In the present paper the authors give the results of measurements of the velocities of meteors made by radio-echo technique during the Gemini shower on December 10-14, 1957 from 23^h to 5^h in Khar'kov. V.V.Tolstov and D.N.Luk'yashko had a share in the measurements. 569 velocities of meteors were determined. 226 meteors had velocities from 32.5 to 37.5 km/sec. Here the mean velocity was 35.9 km/sec.
There are 6 figures and 2 references, 1 of which is Soviet, and 1 English

SUBMITTED: March 5, 1958

Card 1/1

37946
S/035/62/000/005/041/098
A055/A101

3,1710

AUTHORS: Kashcheyev, B. L., Dudnik, B. S., Lagutin, M. F., Lysenko, I. A.

TITLE: Apparatuses for radar observation of meteors

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 5, 1962, 45-46, abstract 5A349 (V sb. "Meteory", no. 1, Khar'kov, Khar'kov university, 1960, 3-10)

TEXT: The authors describe a radar system permitting the investigation of meteoric phenomena. They examine the functional circuits of the apparatuses for measuring the number of meteors at the 36.9 Mc frequency. To enhance the reliability of the obtained results, a pulse-noise prevention device is employed, this device making use of the difference in the spectra of the periodical sequence of rectangular radio pulses and pulse noises. An apparatus is described that permits determining the meteor speeds, the height of the reflecting region of the meteor trail, the radiants and the orbits; it also permits the investigation of the meteor trail drift. The pulse-coherent method is used for the observation of the trail. For studying turbulent motions in the meteor zone of the atmosphere, extension receiving relay stations are used, into which is fed

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S/035/62/000/005/041/098
A055/A101

Apparatuses for radar observation of meteors

the reference signal from the master stage of the main transmitter; the recording of the reflections from the meteor trail, received at several spaced stations, is effected on a film at the main station.

B. K.

[Abstracter's note: Complete translation]

Card 2/2

3 7953
S/035/62/000/005/064/098
A055/A101

3.5140

AUTHORS: Lebedinets, V. N., Lagutin, M. F., Lysenko, I. A.

TITLE: Influence of the atmospheric turbulent wind on measurments of velocities and radiants of meteors

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 5, 1962, 65, abstract 5A497 (V sb. "Meteory", no. 1, Khar'kov, Khar'kovsk. un-t, 1960, 21-23)

TEXT: The authors examine the influence of the atmospheric turbulent wind upon the precision in the measurement of the velocities and of the radiant coordinates of meteors. The turbulent wind velocity gradient was measured by the method of the spaced reception of radio waves reflected from the meteor trails (see abstract 5A349). On the basis of 302 meteors recorded at two points, the authors determined the error in the measurement of the velocities and of the radiant coordinates of meteors for a variation of the atmospheric wind velocity gradient from 0 to 80 m · sec^{-1} · km^{-1}. It is shown that the turbulent wind leads to considerable errors in the determination of the meteor radiant

Card 1/2

S/035/62/000/005/064/098
A055/A101

Influence of the atmospheric turbulent wind ...

coordinates; the influence of the turbulent wind upon the precision in the determination of the velocity of the meteors is insignificant.

B. Kashcheyev

[Abstracter's note: Complete translation]

Card 2/2

S/058/62/000/008/111/134
A160/A101

AUTHORS: Kashcheyev, B. L., Lysenko, I. A.

TITLE: An investigation of the circulation of the atmosphere at an altitude of 80 - 120 km

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 29, abstract 8Zh205 (In collection: "Ionosfern. issledovaniya. No. 9". Moscow, AN SSSR, 1961, 7 - 13; summary in English)

TEXT: The results of measuring the drift of meteor trails are presented. The measurements were carried out at the Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnic Institute) from March to August 1960. The measurements were conducted at a frequency of 36.9 Mc by the coherent-pulse radar method. (Referativnyy zhurnal, Geofizika, no. 11, 1956, 33265; 1961, 2G43). The results are presented in the form of graphs. The results obtained in Khar'kov are also compared with the results obtained in Jodrell Bank in 1958 - 1959.

[Abstracter's note: Complete translation]

Card 1/1

25489
S/021/61/000/005/009/012
D215/D304

3.1700 (1046, 1126 1060)

AUTHORS: Kashcheyev, B.L., Lahutin, M.F., and Lysenko, I.A.

TITLE: Investigating individual radiants of the geminides shower

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 5, 1961, 623 - 626

TEXT: During the 1958 IGY it was arranged at the Khar'kov Polytechnic Institute to determine the orbits and speeds of meteor particles as well as the velocity and direction of the drift of ionized traces. Trajectories of meteor particles were investigated by observing radio echos of three separate receiving stations. The radiolocating apparatus consisted of a transmitter, and high sensitive receiver, working on 8 m waves, and from the receiving stations 4 and 8 km distant from the home station. Signals received at these stations were transmitted back to the home station and, together with the signals received directly at the home station, were regi-

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Investigating individual ...

stered on photofilm. In one day, an apparatus like this can register 150 orbits of meteors up to 7^m stellar magnitude. From December 9-14, 1959 in the maximum epoch of gemenides shower, more than 400 registrations were received. Using the 'Ural' computer the elements of the orbits were calculated. The results were compared with the results from Jodrell Bank (England) and the Harvard Observatory (USA), with a good coincidence. From this data the daily change for the radiant was found: $\Delta\alpha \simeq + 0.90$ $\Delta\delta \simeq - 0.25$. This method of finding the radiants of separate meteors allows one to measure the mean velocity of the meteors with greater accuracy. The value calculated was 35.5 km/sec. which is the mean value obtained from the large number of meteor velocities; their radiants were grouped round the mean value of the registered radiant. It was established that in the range 30-40 km/sec. the decrease in the meteor velocity before reaching the point of maximum ionization was 0.6 km/sec. Therefore, the preatmospheric velocity of the gemenides shower was 36.1 km/sec. which appears to be in close conformity with F.L. Whipple's results (Ref. 3: Astr. Jour. 59, 201, 1954). Experiments

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Investigating individual ...

showed also that in 10 % of cases the accuracy is restricted by the influence of the turbulent action of winds. There are 1 table, 2 figures and 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: J.C. Gill, and J.G. Davies, Mon. Nat. Royal Astron. Soc. 116, 105, 1956; F.L. Whipple, Astr. Journ. 59, 201, 1954.

ASSOCIATION: Kharkivs'kyy politekhnichenyy instytut (Khar'kov Polytechnic Institute)

PRESENTED: V.G. Bondarchuk, Member AS UkrSSR

SUBMITTED: May 25, 1960

Card 3/3

KASHCHEYEV, B.L.; DUDNIK, B.S.; LAGUTIN, M.F.; LEBEDINETS, V.N.;
LUK'YASHKO, D.N.; LYSENKO, I.A.

Radio echo observations of meteors in Kharkov. Issl.ionosf.i met.
no.8:7-20 '62. (MIRA 15:4)
(Meteors) (Kharkov—Radar in astronomy)

KASHCHEYEV, B.L.; DUDNIK, B.S.; LAGUTIN, M.F.; LYSENKO, I.A.

Equipment for radar observations of meteors. *Meteory; sbor.st.* no.1:3-10 '60. (MIRA 15:8)

(Meteors) (Radar in astronomy)

LYSENKO, I. A.

43280

3.2500

S/831/62/000/008/001/016
E032/E114

AUTHORS: Kashcheyev, B.L., Dudnik, B.S., Lagutin, M.F., Lebedinets, V.N., Luk'yashko, D.N., and Lysenko, I.A.

TITLE: Radar observations of meteors at Khar'kov

SOURCE: Ionosfernyye issledovaniya (meteory). Sbornik statey, no.8. V razdel programmy MGG (ionosfera). Mezhduved. geofiz. kom. AN SSSR. Moscow, Izd-vo AN SSSR, 1962, 7-20

TEXT: This paper reports the results of analyses of radio echoes from meteor trails which were recorded at the Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina (Khar'kov Polytechnical Institute imeni V.I. Lenin) during July 1957 - May 1959. The observations were in accordance with the IGY programme and were carried out at 73.2 Mc/sec and 36.9 Mc/sec. Special measures were taken to suppress extraneous interference. Pulse lengths of ten microseconds were employed at repetition frequencies up to 500 cps and power per pulse ~50-70 kW. The detector sensitivity was 5×10^{-14} W. The half-power beamwidth in the final

Card 1/3

Radar observations of meteors at ...

experiments was ± 20° (vertical plane) and ± 17° (horizontal plane). The meteor velocities were measured by a diffraction method in which the velocities relative to earth were determined from signal amplitude fluctuations. Altogether 300 000 reflections from sporadic meteors were recorded and average diurnal variations in the number of meteors were obtained throughout the period. Fig.10 shows three typical distributions (number of meteors versus mean sidereal time). The velocity distributions were also determined as functions of time and are reproduced in the paper. Finally, the mass distribution of sporadic meteors was found from the lengths of the reflected pulses. It was found that

$$N = N_0 m^{s-1} \quad \text{where} \quad s \sim 2.$$

Owing to the large beamwidth, weak meteor showers could not be detected against the sporadic background. Brief details are given about the following showers which were the only reliably detected showers: Quadrantids, Lyrids, Geminids, η-Aquarids and Arietids (daytime). There are 16 figures.

Card 2/3

LEBEDINETS, V.N.; LAGUTIN, M.F.; LYSENKO, I.A.

Effect of atmospheric turbulent wind on the measurements of velocity and radiants of meteors. Meteory; sbor.st. no.1:21-23 '60. (MIRA 15:8)

(Meteors)

LYSENKO, I. A.

Air currents in the meteor zone observed by radar. Astron. zhur. 40 no.1:161-170 J-F '63. (MIRA 16:1)

1. Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina.

(Atmosphere) (Meteors) (Radar in astronomy)

ACCESSION NR: AP4039722 S/0141/64/007/002/0225/0231

AUTHOR: Delov, I. A.; Lagutin, M. F.; Ly*senko, I. A.

TITLE: Investigation of parameters of some turbulent flows by radiolocation of meteor trails

SOURCE: IVUZ. Radiofizika, v. 7, no. 2, 1964, 225-231

TOPIC TAGS: radar tracking, meteor, pulse communication, ionospheric radio wave, tropospheric radio wave

ABSTRACT: Apparatus employing a pulse-coherent method of radar tracking of meteor trails, described in detail elsewhere (Meteory*, No. 1, Collection of articles, izd. KhGU, 1960) has been used to investigate the turbulent motion in the meteor zone of the upper atmosphere. The means used to obtain coherence in the main apparatus and in the relaying apparatus are described. The parameters of turbulent motion obtained in this investigation (the pulsational velocity U of large-scale vortices, their characteristic dimension L, and their decay time T, the pulsational velocity of the vortices of the energy dissipation interval U_l, their characteristic dimension l, their lifetime t_l, and the gradient of the turbulent-motion velocity are found to be of the same order as obtained by J. S. Greenhow and E. L. Neufeld

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(Proc. Phys. Soc. v. 75, 228, 1960 and No. 1, 475, 1959). The authors believe, however, that the procedure they used to process the radar data, based on local turbulence properties, gives more correct estimates of the turbulent-motion energy ($\varepsilon \sim 1200$ and 3200 cm^2/sec^3 for day and night, respectively) than is obtained by Greenhow and Neufeld. It is also shown that many statistical parameters of the turbulence (energy of turbulent motion, pulsational velocity of large-scale vortices, velocity gradient of turbulent motion) are subject to diurnal variations. This gives grounds for assuming that the "intensity" of the turbulence in the meteor zone is controlled by the sun. Orig. art. has: 5 figures and 4 formulas.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnic Institute)

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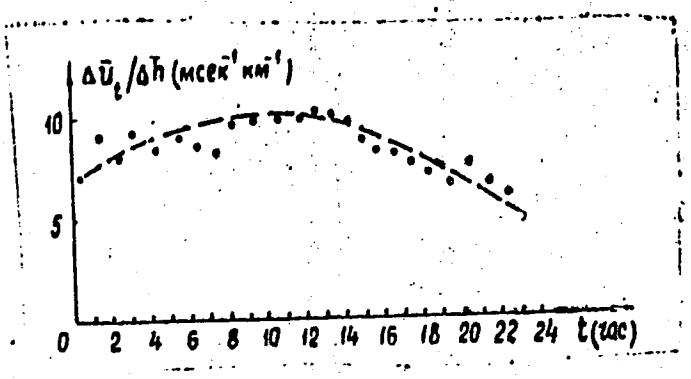

Diurnal variations of turbulent wind gradient $(sec^{-1}km^{-1})$
(abscissa - local time, ordinate - millisecond $^{-1}$km^{-1}

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ACC NR: AP7003025 SOURCE CODE: UR/0203/66/006/004/0703/0706

AUTHOR: Arof'yeva, A. V.; Korpusov, V. N.; Lysenko, I. A.; Orlyanskiy, A. D.; Ryabchikov, A. N.; Shuvarikova, N. F.

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TITLE: Results of a study of the wind regime in the meteor zone by the radar method

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 4, 1966, 703-706

TOPIC TAGS: atmospheric wind, meteorologic radar, signal to noise ratio

ABSTRACT: The method and results are presented of a study of wind circulation in the upper atmosphere conducted during the first half of 1964 near Moscow (56° N). The wind circulation was measured by radar tracking of meteor trail drifts at altitudes of 85—110 km.

The radar equipment used in the measurements had a coherent pulse output modulating a 33-Mc carrier. The pulse duration, repetition frequency, and power were 10 μsec, 500 cps, and approximately 100 kw, respectively. A form of coding was used in which every fifth pulse was distinct. A two stack transmitting antenna consisting of four 5-element Yagi antennas was employed. The receiver antenna had only one 5-element section. The

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